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Research Article

Factors Associated with Suicidal Ideation in Adolescents of a Primary Care Unit in Tijuana

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Abstract

Background: Adolescence is a period of important changes in three main areas of development: physical, cognitive and social. Depression in adolescence is associated with an increased risk of suicide as it is the third cause of death in this age group. Suicide rates in adolescents have almost tripled in the last 50 years and suicidal ideation is the first link in the chain and a fundamental item for research and development of prevention and intervention strategies.

Objective: To identify the factors associated with suicidal ideation in adolescents of the family medicine unit #27 in Tijuana, Baja California, Mexico.

Design and Setting: Analytic cross-sectional study.

Methods: Cross-sectional analytical study in 62 adolescents aged 12-18 years were recruited from the Family Medicine Unit #27 in Tijuana, Baja California. Questionnaires were conducted to identify the main risk factors associated with suicidal ideation. For the bivariate analysis, odds ratio and Chi-square were used for association between the variables with a 95% confidence interval. A $p<0.05$ was considered significant.

Results: 8% of adolescents with depression and 7% with suicidal ideation were found. An important association was found between depression and suicidal ideation [$X^2=25.8$, OR 84 (CI 95% 5.8-1208), $p<0.001$]. The sociodemographic, clinical and family factors associated with suicidal ideation were: depression ($p<0.001$), drug use ($p<0.001$), family functionality ($p=0.001$), television hours/day ($p=0.005$) and hours of video games/day ($p=0.045$).

Conclusion: The results of prevalence in depression and suicidal ideation found in our study are similar to those reported in national and international literature and coincide with the upward trend of this problem among adolescents.

Keywords: Depression; Suicidal Ideation; Adolescence

Introduction

The patterns of adolescent mortality have changed during the last 20 years, from infectious predominance to social etiology. Each year approximately 800,000 people commit suicide, for each suicide more annual suicide attempts are carried out. Suicide is the second leading cause of death in the 15 to 29 year old group. It is a global phenomenon that affects all regions worldwide [1]. Suicidal ideation has been defined by the World Health Organization as those passive thoughts about wanting to be dead or by active thoughts about killing oneself, not accompanied by behaviors to prepare for it [2]. Suicide is a process that generally takes place through four stages: suicidal ideation, planning, suicide attempt and accomplished suicide. Suicidal ideation is the first step, so it is essential for research and development of prevention and intervention strategies in order to structure timely interventions [3].

Depression is a frequent disease worldwide that affects more than 300 million people [4]. Those young people with depression have a higher risk for suicidal thoughts and suicide attempts [5]. Adolescence is a period marked by a large number of transitions in different areas of biological, psychological, cognitive, social, economic and family development, which involve different adaptation processes. During this age range, adolescents are more exposed to situations of vulnerability and risk [6]. Adolescents are now more likely to experience feelings of disappointment because of the circumstances they face, such as the lack of opportunities and areas to develop harmoniously, which may have an impact on their emotional health [7].

The Pan American Health Organization emphasizes the importance of early intervention in mental health problems, before acquiring behavioral patterns that compromise health and make it more difficult to modify them [8]. There are screening instruments that allow us to identify suicidal ideation as the Okasha suicide scale [9], a self-applied questionnaire that explores suicidal ideation and suicide attempt, with a sensitivity of 90% and specificity of 79%, it is considered a suitable instrument for the investigation of suicidal intent in adolescents (Cronbach alpha 0.89). To detect depression, the Depression Scale of the Center for Epidemiological Studies (CES-D) is one of the most used scales in the world translated and adapted to several languages. It was originally developed by the United States Center for Epidemiological Studies. It is an exploration tool aimed at detecting cases at high risk of presenting depression, with sensitivity of 97.7%, specificity of 79% and Cronbach alpha 0.84 [10].

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There is a shortage of epidemiological data in the adolescent population, especially in developing countries such as Mexico to guide public health policies [11]. Improving the detection, remission and control of suicidal behavior are important steps for its prevention [12]. The 2012 National Health and Nutrition Survey indicates that the prevalence of suicide attempts in adolescents increased from 1.1 to 2.7% [13] and the 2012 National Survey of Health and Nutrition of Baja California reports a prevalence of 4.1%, also reports a suicide attempt behavior in adolescents of 5.8% [14-15]. Suicidal behavior is a multifactorial phenomenon with an ascending global epidemiological trend in all age groups and is considered a relevant public health problem [16]. For all the above, the main objective of this research was to identify the factors associated with suicidal ideation in adolescents of the family medicine unit # 27 in Tijuana, Baja California, Mexico.

Methods

Study design and population

An analytical cross-sectional study was conducted in the Family Medicine Unit #27 of the Instituto Mexicano del Seguro Social of Tijuana, Baja California, Mexico. 62 adolescents aged 12-18 years were included who agreed to participate in the study with prior authorization by informed assent and informed consent from the parents. Adolescents with neurological pathology were excluded. The teenagers were caught in the waiting rooms of the family medicine department.

Variables

The variables studied were collected in a standardized data sheet, the variables were classified into three groups. Sociodemographic: age, sex, schooling, occupation, marital status, children, number of children, hours of television per day, hours of video games per day and hours of internet per day; clinics: diseases, tobacco consumption, number of cigarettes per day, alcohol consumption, frequency of alcohol consumption, drunkenness, drug use, type of drugs, frequency of drug use and depression; family: family functionality. The existence of suicidal ideation was determined by the Okasha Suicidality Scale, the total score could range between 0 and 12 points. The cut-off point of the suicidal ideation to determine the presence of suicide attempt was 5 points, the prevalence of depression was determined by the Depression Scale of the Center for Epidemiological Studies (CES-D). To determine family functionality, family APGAR was used, which shows the perception of family functionality that each family member has [17].

Statistical analysis

The statistical program SPSS version 21 in Spanish was used to analyze the data. Descriptive statistics were performed with frequencies and percentages to evaluate the qualitative variables, for the quantitative variables mean and standard deviation were used. The results of the groups were analyzed with odds ratio to establish association between the variables and the statistical significance was determined with Chi square. A value of $p<0.05$ was considered significant.

Ethics

The study was approved by the local health ethics and research committee; with registration number R-2019-204-003. The research was conducted under the general health law on health research, the Helsinki declaration and the Ottawa letter, as well as the bioethical principles. Patients signed the informed assent and parents signed informed consent. The adolescents detected with suicidal ideation were immediately sent to the emergency department where an assessment was made by a psychiatrist. The adolescents with depression without suicidal ideation were sent to the department of family medicine for evaluation and treatment.

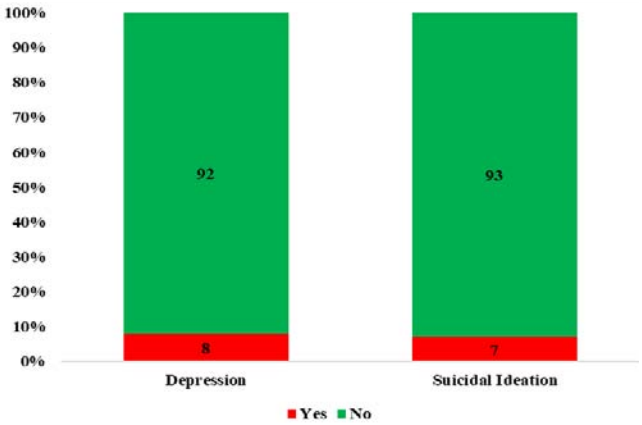

Figure 1: Incidence of depression and suicidal ideation.

Results

62 adolescents were included, 73% were women and 27% men. The age range was between 12 and 18 years, the average age was 15.05 ± 1.8 years. The most frequent schooling was secondary (60%) and the majority were students (84%). In marital status, almost all were single (97%). 8% of adolescents with depression and 7% with suicidal ideation were found (Figure 1). In family functionality, 79% had functional families, 13% moderately functional and 8% dysfunctional. An important association was found between depression and suicidal ideation [X^2=25.8, OR 84 (95% CI 5.8-1208), $p<0.001$]. The factors associated with suicidal ideation were the following: family dysfunctionality ($p<0.001$), depression ($p<0.001$), drug use ($p<0.001$), hours of TV/day ($p<0.005$) and hours of videogames/day ($p<0.04$).

Discussion and Conclusion

The results obtained from the application of the Okasha Suicidal Ideation Scale indicate a prevalence of Suicidal Ideation of 7%. The National Survey of Health and Nutrition of Baja California 2012 [15], reported an increase in the prevalence of suicidal behaviors of almost 100% compared to 2006, this increase is reflected in the same way in the national results. Barros dos Santos [18] found 10% suicidal ideation in his research. The result obtained from our population is a reflection of the upward trend compatible with national and international results. The cases detected with suicidal ideation in our sample were in the ages of 13, 15 and 16 years, more frequently in the age of 15 years, similar to that reported in the National Survey of Health and Nutrition 2012 and with Pelltzer [19] who report more frequent suicidal ideation in 14 and 15 years.

McKinnon [20] mentions within the risk factors for suicidal behaviors the weakness of family relationships and drug use as well as in our population. Wasserman [21] obtained significant associations in the high use of internet, television and videogames, in

our population an association was found with the hours of television per day and the hours of videogames per day. According to the results of the Depression Scale of the Center for Epidemiological Studies (CES-D), we found a prevalence of depression of 8%. The World Health Organization reports depression as a major global health problem with an upward trend representing a greater risk for the development of suicidal thoughts [1]. In our study, depression was found as the main factor associated with suicidal ideation. Shaikh [22] mentions an association between suicidal thoughts and harmful behaviors such as depression and anxiety, as well as the history of previous suicide attempts; in our study, we found that 50% of positive cases of suicidal ideation reported previous suicide attempts. The positive cases of suicidal ideation and depression in our population were adolescents without partners and women more frequently (73%), none of these aspects resulted in a positive association.

The results of prevalence in depression and suicidal ideation found in our study are similar to those reported in national and international literature and coincide with the upward trend of this problem among adolescents. The results obtained give us a more specific characterization about suicidal behaviors in our region, we believe that this study gives us the obvious need to work with adolescents, developing continuous screening programs, emphasizing risk factors, applying preventive measures and medical evaluations to detect cases from early stages to prevent suicide in this age group.

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